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Results of excisional surgical treatment for mucoceles of the oral cavity: a retrospective study.

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ABSTRACT: The mucocele is a lesion that appears in the oral mucosa after a rupture of the duct of a minor salivary gland that spills the mucin into the surrounding soft tissues. The most frequent cause of this retentive lesion is local trauma and the most common is that they require surgical treatment with a prophylactic radical margin of the minor salivary glands close to it. This study was carried out to describe the clinical results of excisional surgical treatment of intraoral mucoceles in the population of Mexicali, Baja California. A retrospective descriptive observational study was carried out with the information of 40 patients diagnosed with a mucocele and operated on in the Oral Surgery service of the Mexicali School of Dentistry, Baja California; between July 2016 and June 2020. These oral lesions were more frequent in women (57.5%) than in men (42.5%), between the ages of 21 and 30, and predominated in students. Only 45% identified a traumatic origin of their injury and less than 25% of the patients had a history of toxic habits. The lower lip was the most affected anatomical site, with no differences between the right and left hemilabium. All patients received surgical treatment, with histopathological confirmation of total excision (95%) and partial excision (5%); and there was only one case that reported recurrence, which represented 2.5%. Excisional surgical treatment was confirmed to have a high level of success.

KEYWORDS: Oral mucocele, Mucus retention cyst, Minor salivary gland, Surgical therapy, Epidemiology

I. INTRODUCTION

The mucocele of a minor salivary gland is a cavity formed in the connective tissue surrounding it, which can be lined by granulation tissue or epithelium, and which always contains mucus or mucous fluid accumulated inside.[1,2,3]

Etiologically, mucoceles occur due to traumatic or obliterative causes that produce a phenomenon of mucosal extravasation and retention of it. Faced with the extravasation or leakage of saliva out of the duct into the subcutaneous cellular tissue, this lesion mainly manifests as an accumulation of mucin in the extravascular space, due to the rupture of the excretory duct of the minor salivary gland due to some type of trauma and thus it is considered 95% of mucoceles. On the other hand, these lesions can occur due to the presence of a mucous plug, sialolith, or another mechanism that prevents salivary fluid from escaping, causing distension of the minor gland and forming a cavity lined by epithelium.[3-6]

Clinically, mucoceles are limited retentive lesions, which can measure 1 cm or more in diameter, without exceeding 2 cm. The clinical appearance depends on its location and depth, they generally appear as a rounded formation, covered by healthy mucosa, which creates a bluish relief when it is located superficially and has a coral pink color if it is found towards deeper tissue planes. They can be found on all surfaces of the oral mucosa where there are minor salivary glands, with similar conditions: asymptomatic, with slow and progressive growth, not painful and that can interfere with chewing or speech.[2,5-8]

Regarding the epidemiology of mucoceles, the literature indicates that the prevalence of mucocele is 2.5 per 1000 inhabitants in the North American population, and the lower lip is the most affected anatomical area. Although they can appear at any time in life, these lesions of the minor salivary glands usually appear especially

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in children and young adults, it has been shown that almost two thirds of mucoceles appear in the first three decades of life and affect by equal to men and women, with a slight predominance in the female sex.[9-14]

According to the frequency of mucoceles in patients who attend the services of the Mexicali School of Dentistry, at the Autonomous University of Baja California, Mexico; The question arises as to what results in the short and medium term the radical surgical treatment of intraoral mucoceles has had.

For this reason, the following investigation was carried out with the general objective of describing the clinical results of radical surgical treatment of intraoral mucoceles in the population of Mexicali; in addition to specifying the most important preoperative clinical data in patients with intraoral mucoceles, establishing the usefulness of surgical treatment in correspondence with the histopathological diagnosis and identifying postoperative complications derived from this conventional procedure.

II. METHODS

A retrospective descriptive observational study was carried out with the information of 40 patients with a clinical and histopathological diagnosis of mucocele, with the objective of describing the clinical results of the radical surgical treatment of intraoral mucoceles in the population of Mexicali. All patients were operated on in the Oral Surgery service and studied by the Oral Pathology service, of the Mexicali School of Dentistry, Baja California; between July 2016 and June 2020.

The following inclusion criteria were used: Complete clinical record, with its respective clinical descriptions, preoperative and postoperative clinical photographs, imaging data, surgical videos, and histopathological results. A validly informed consent, to access their files for clinical and epidemiological research purposes, with the signatures and authorizations of the patients. Those cases with incomplete files that did not meet the inclusion criteria were excluded.

Descriptive statistics tools were applied to determine the frequencies, the percentages, the proportions, and the distribution and trend measures. The database was managed with the Excel program at Microsoft.

III. RESULTS

Epidemiologically,oral mucoceles were more frequent in women (57.5%) in contrast to men,(42.5%). To what refers to age, the most predominant range of ages was the third decade of life. Talking of anatomical localization, the lower lip was the most affected anatomical site, follow it by the ventral portion of tongue and superior lip; the inferior lip had no predilection between the right or left hemilabium, even more mucoceles specifically tend to appear in proximity with the labial mucosa of the premolar site.

Of the total number of cases, we consider those who were over 18 years old (adults), which represents a total number of 22 patients of the entire study, as such, only 45% identified a traumatic origin of their injury. Moreover from those 22 patients, less than 25% ohad a history of consumption of toxic substances such as alcohol, medicines and tobacco; in which alcohol represente the highest compumption with 40% in comparison with tobacco which only represents 13%.

All patients of the study only received surgical treatment; and in every single case, the enucleated tissue had a histopathological test, it was considered that partial excision is a rupture of the mucocele during the enucleation that contains the mucin and subsequence spillage of the mucin, in comparison with total excision which is a complete enucleation without any rupture of the capsule. As such, finding shows a histopathological confirmation of total excision in 95% of the cases in contrast with partial excision in only 5%. Evenmore in the microscopic examination there it could be appreciated that the minor salivary gland been attached and in intimately proximity to the connective reactive tissue of the capsule.

In the postoperative, we consider the inflammation as the main indicative of success of the surgical treatment as well as relapses of the injury. Therefore in the post-operative control views, which findings shows downward trend of inflammation signs and symptoms. What refers to relapses of the injury, there was a single case that reported recurrence, which only represented 2.5% of the entire study.

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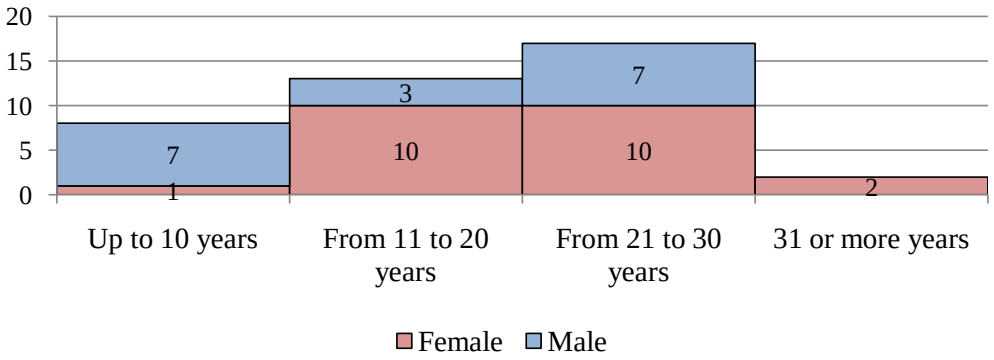
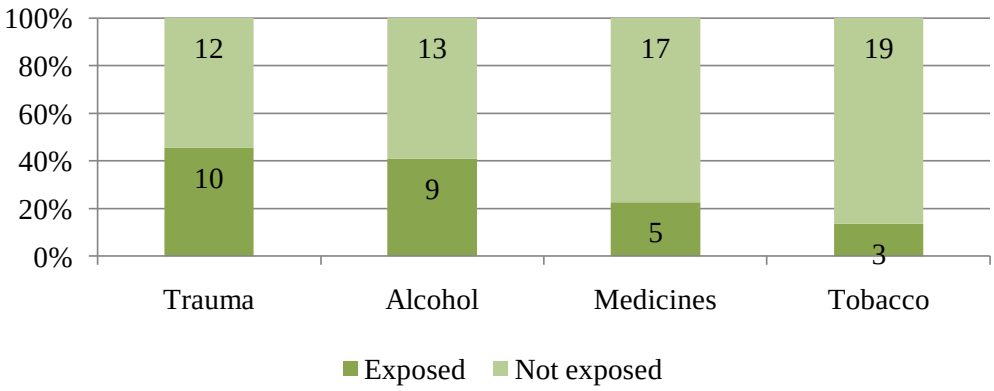
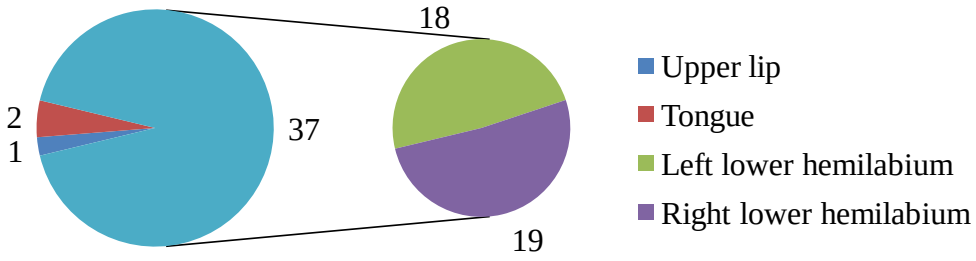
Graphic 1: Distribution of patients with oral mucocele, according to age and sex (n = 40).



Graphic 2: Presence of risk factors for mucoceles in adult patients (n = 22).



Graphic 3: Anatomical location of the oral mucoceles (n = 40).



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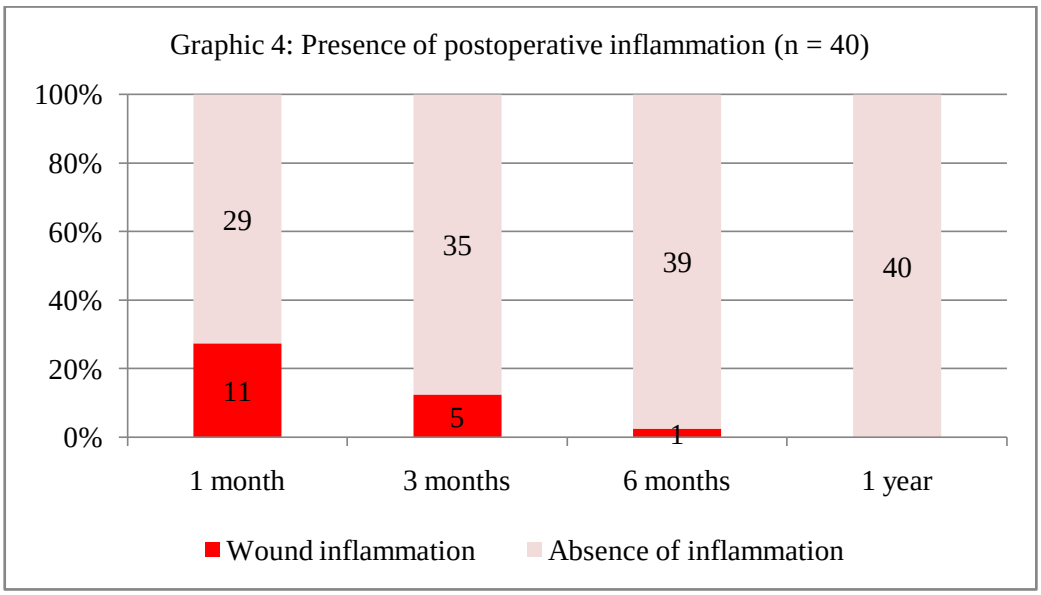

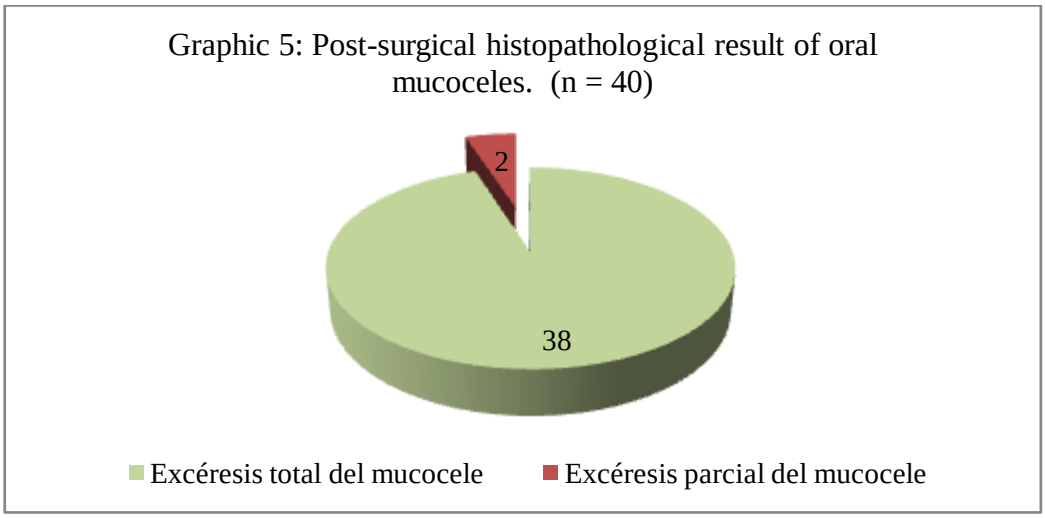

IV. DISCUSSION

The distribution of patients according to age and sex indicates that there is a greater frequency of this lesion in the first three decades of life and there is a greater predilection in the female sex, these data coincide with the research carried

out by Tsunoda and collaborators[7] in the year 2020. On the other hand, Chauhan and collaborators[5] indicate that there is no predilection by sex.

In the presence of risk factors we agree that trauma is the greatest risk factor for the appearance of lesions of this type, and smoking is the least frequent risk factor, all this carried out in adult patients based on clinical history data, Chauhan and collaborators[5] in their study state that trauma is the most evident risk factor and with the highest incidence.

The anatomical location of mucoceles is greater in the lower lip with more than 92.5%. this coincides with the study by Choi and collaborators[13] where they have that 68% of mucoceles lesions appear in the lower lip.

The presence of inflammation was the characteristic clinical sign, this was weighted in a monthly period of time, where after 6 months this sign was only 5% of appearance.

The histopathological result the total and partial exeresis of the mucocele was measured, being 95% total exeresis and only 5% partial exeresis, in comparison with Mohammad and collaborators[4]where 70% was total exeresis and 30% partial exeresis6.

V. CONCLUSION

After processing the information related to the mucoceles of the oral cavity in the population of northwestern Mexico, it can be concluded:

Mucoceles were more frequent in female patients aged 21 to 30 years, with no predominant exposure to chemical substances.

The most affected anatomical site was the lower lip and only one third of the patients confirmed a traumatic cause.

Surgical treatment was successful in most patients, as confirmed by histopathology. Inflammation was the most common postoperative clinical sign and no case of recurrence was reported.

REFERENCES

[1]. Besbes A, Elelmi Y, Khanfir F, Beljacem R, Ghedira H. Recurrent Oral Mucocele Management with Diode Laser Case report. Hindawi. 2020;1: p. 1-5.

[2]. Neville B, Damm D, Allen C, Chi A. Color atlas of oral and maxillofacial diseases. 4th Ed. St. Louis: Elsevier; 2016.

[3]. Odell E. Cawson's Essentials of Oral Pathology and Oral Medicine. 9th Ed. Barcelona: Elsevier; 2017.

[4]. Mohammad S, Khan M, Salahuddin B, Haider-Durrani S, Bashir N, Shakeel S. A spectrum oral of mucoceles: histopathology and management. Pakistan Oral & Dental Journal. 2019; 39(2): p. 1-5.

[5]. Chauhan D, Thakur S, Verma K, Justa A. Mucocele in Lower Lip as a Result of Trauma. Indian J Dent Sci. 2021; 13: p. 4-122.

[6]. Shetye O, Shetye NK. Traumatic induced mucocele of the lower lip. Department of Oral and Maxillofacial Surgery. 2020; 2: p. 1-4.

[7]. Tsunoda N, Kawai T, Obara M, Suzuki S, Miyamoto I, Yakeda Y. Analysis of effects and indications of cryosurgery for oral mucoceles. Elsevier. 2020; 2: p. 1-6

[8]. Lewandowski B, Brodowski R, Pakla P, Makara A, Stopyra W, Startek B. Mucoceles of minor salivary glands in children. Own clinical observations. Dev Period Med. 2016;20(3):p.235-242.

[9]. Abdel-Aziz M, Khalifa B, Nassar A, Kamel A, Naguib N, Abdel-Rahman E. Mucocele of the hard palate in children. Elsevier. 2016; 85:p.46-49.

[10]. Nohuz E, Gallot D, Rousset C, Brunel A, Albaut M, Baye S. Mucoce`leconge´nitale de la faceventrale de la langue. Elsevier. 2015; 2:p. 1-5.

[11]. Rodriguez H, De Hoyos Parra R, Cuestas G, et al. Congenital mucocele of the tongue: a case report and review of the literature. Turk J Pediatr 2014;56:199–202.

[12]. Peker E, Öğütlü F, Karaca IR, et al. A 5 year retrospective study of biopsied jaw lesions with the assessment of concordance between clinical and histopathological diagnoses. J Oral MaxillofacPathol 2016; 20: 78-85.

[13]. Choi Y, Byun J, Choi J Jung J. Identification of predictive variables for the recurrence of oral mucocele. Med Oral Patol Oral Cir Bucal. 2019; 24(2): 231-5.

[14]. Hunasgi S, Koneru A, Vanishree M, et al. Assessment of reactive gingival lesions of oral cavity: a histopathological study. J Oral Maxillofacial Pathol. 2017; 21:p.160-180.